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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/512,056	10/21/2004	Norio Ito	0033-0959PUS1	8421

2292 7590 06/01/2010
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EXAMINER	
BROOME, SAID A	

ART UNIT	PAPER NUMBER
2628	

NOTIFICATION DATE	DELIVERY MODE
06/01/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/512,056	ITO ET AL.	
	Examiner	Art Unit	
	SAID BROOME	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 February 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,5,8,10,11,14 and 22-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5,8,10,11,14 and 22-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This office action is in response to an amendment filed on 2/2/2010.

2. Claims 1, 5 and 10 have been amended by the applicant.

3. Claims 3, 8, 11, 14 and 22-28 have been previously presented.

4. Claims 2, 4, 6, 7, 9, 12, 13 and 15-21 have been cancelled.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 10 and 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Though the applicant's Specification disclosed a data conversion unit for converting three-dimensional image data on pg. 13 lines 12-14, the applicant's Specification does not disclose the subject matter disclosed in lines 13-19 of amended claim 10: "*...data conversion unit converting said synthesized three-dimensional image data, using a subset of the three-dimensional display control information for said plurality of types of three-dimensional display schemes, into a format of a selected three-dimensional display scheme of said plurality of three-dimensional display schemes.*". Therefore, the subject matter recited in lines 13-19 of amended

claim 10 introduces new matter into the claims, because that subject matter was not disclosed in the applicant's originally filed Specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3, 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Osaka et al. (hereinafter "Osaka", US Patent 6,023,277) in view of Akamatsu et al. (hereinafter "Akamatsu", US Patent 6,313,866).

Regarding claim 1, Osaka teaches a multimedia information generation apparatus for generating multimedia information including at least one two-dimensional image data or character information and at least two three-dimensional image data based on a plurality of viewpoints enabling stereoscopic vision, said multimedia information generation apparatus (col. 14 lines 16-24: "*FIG. 8 is...showing the configuration of a computer system...In this embodiment, a two-dimensional image and a three-dimensional (stereoscopic) image are switched between in...a display screen...*", col. 16 lines 11-15: "*...image file 50 according to this embodiment includes...three-dimensional image data 52 composed of combined stripes, and two-dimensional image data 53...*" *and Fig. 44: 1036a, 1036b, where two three-dimensional image data(Fig. 44: 1036a,1036b) are displayed for viewing in a stereoscopic manner from a plurality of viewpoints, col. 26 lines 40-43: "A three-dimensional display presented on the*

screen according to this embodiment will be described first. The three-dimensional image is synthesized from a plurality of parallax images of a plurality of viewpoints."), comprising:

a multimedia information generation unit generating said multimedia information constituted of said at least one two-dimensional image data or character information and said at least two three-dimensional image data (col. 14 lines 57-63: "*A screen controller 9 generates paint signals and distributes these signals to the image paint unit 7...A host computer 11 is capable of handling two-dimensional images and three-dimensional images.*", *where the display driver 6 comprises a paint unit 7 that generates the two and three dimensional images and also a screen controller that controls the display of the three dimensional images and shown in Fig. 44: 1036a, 1036b, therefore driver 6 serves as a multimedia information generation unit*), and header information necessary for reproducing data (col. 17 lines 24-31: "*...based upon the information in the file header 51, whether this window has three-dimensional image data...whether or not a three-dimensional image is to be displayed has been recorded as information in the header 51 and therefore the decision of step S64 is rendered promptly by making reference to this information. Further, these processing operations may be executed by a file...*", *in which header information 51 provides information required to correctly reproduce three-dimensional image data on a display*), and

said control information generation unit generating identification data for identifying said at least two three-dimensional image data and including said identification data in said three-dimensional image display control information, and only one said identification data being provided for said at least two three-dimensional image data (col. 16 lines 11-21: "*A three-dimensional image file 50 according to this embodiment includes a...image format...described in*

the file header. The application analyzes the header, reads in the image data and causes the computer to paint the image." and col. 17 lines 24-26: "*...it is determined, based upon the information in the file header 51, whether this window has three-dimensional image data.*", *where the information used to indicate the dimensions of the three-dimensional image data by using an identifier designating the dimension of an image, such as the two three-dimensional images of Fig. 44: 1036a, 1036b is three-dimensional, therefore other formats, such as display of two-dimensional image formats (Fig. 44: 1033a) would be designated as well. Therefore the display control apparatus of Osaka comprises one or more components functionally equivalent to the control generation unit that analyzes the identification of image data provided by a file, as disclosed in col. 5 lines 4-8: "...to provide a display control apparatus and a display control method in which paint information indicating whether a three-dimensional display is possible or not is provided in the header of a file, and this information is used to decide execution of a three-dimensional display, thereby making it possible to readily decide whether a three-dimensional display is to be executed...*");

However, Osaka fails to teach a control information generation unit generating, based on an input parameter, three-dimensional image display control information necessary for converting said three-dimensional image data for enabling stereoscopic vision for a plurality of three-dimensional display schemes and said control information including control information for said plurality of three-dimensional display schemes. Akamatsu teaches a control information generation unit generating, based on an input parameter, three-dimensional image display control information necessary for converting said three-dimensional image data for enabling stereoscopic vision for a plurality of three-dimensional display schemes (col. 5 lines 6-14: "*...the*

first image signal is fed to a parallax control circuit 106, and the second image signal to a depth information minimum value acquisition circuit 105 and also to a three-dimensional image synthesizer 103. The output terminal of the parallax control circuit 103 is connected to the three-dimensional image synthesizer 103. In this synthesizer, the depth information items of the input two image signals are compared with each other, whereby synthesization is performed such that the one of these signals which indicates a larger depth will be output.", col. 5 lines 17-23: "*…the first image signal is fed to a first depth information limiter 201, and the second image signal to a second depth information limiter 202. The image signals limited by the depth information limiters 201 and 202 are fed to a three-dimensional image synthesizer 103.*" and *shown in Figs. 4, 5 and 7, in which control information generation units, such as parallax control circuit 106 and depth information limiter 201, enable three dimensional data to be provided for conversion into different stereoscopic display schemes, as illustrated in Figs. 4, 5 and 7*) and said control information including control information for said plurality of three-dimensional display schemes (col. 5 lines 4-32: "*In this embodiment, a first image signal is input to an input terminal 11, while a second image signal is input to a second input terminal 12. Then…the second image signal to a depth information minimum value acquisition circuit 105…Referring then to FIG. 5, a yet further embodiment will be described…The first depth information limiter 201 limits, within a range…a depth x1 which can be indicated by the depth information…*", *in which control information, such as the depth information limiter 201(Fig. 5) and the depth information minimum value acquisition circuit 105(Fig. 4), each provide depth information utilized to control the different display schemes of Fig. 4 and 5, respectively*). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the three-

dimensional images of Osaka with the three-dimensional conversion display schemes of Akamatsu because this modification would provide an improved stereoscopic environment that enables adaptive display of three-dimensional data in a plurality of different display schemes, wherein stereoscopic images are presented with accurate visual continuity regardless of the particular required display scheme, so to accurately maintain the stereoscopic effect and reduce visual discontinuities during stereoscopic visualization.

Regarding claim 3, Osaka teaches wherein said identification data is provided for the whole of said at least two three-dimensional image data (col. 17 lines 41-47: "*...the screen controller 9 controls the image painting unit 7 and the checkered mask-pattern painting unit 8 and causes a three-dimensional display to be presented at the position of the window of the stereoscopic display 12.*" and col. 17 lines 24-26: "*...it is determined, based upon the information in the file header 51, whether this window has three-dimensional image data.*").

Regarding claim 5, Osaka teaches an identifier for identifying said two-dimensional image data (col. 16 lines 11-21: "*A three-dimensional image file 50 according to this embodiment includes a file header 51...image format...described in the file header. The application analyzes the header, reads in the image data and causes the computer to paint the image.*", *where the file header identifies images prior to generation of the stereoscopic images*, col. 17 lines 24-26: "*...it is determined, based upon the information in the file header 51, whether this window has three-dimensional image data.*"). However, Osaka fails to teach an identifier of identifying said at least two three-dimensional image data is set in advance and said identification data includes the identifier of said at least two three-dimensional image data. Akamatsu teaches an identifier of identifying said at least two three-dimensional image data is

set in advance (*Fig. 4, in which the 'three-dimensional image signal 1' is identified as image signal '1' in advance before transmission to the parallax control circuit 102*) and said identification data includes the identifier of said at least two three-dimensional image data (*Figs. 4 & 5, in which the two three-dimensional image data signals are identified as signals '1' and '2'*). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the three-dimensional images of Osaka with the three-dimensional conversion display schemes of Akamatsu because this modification would provide an improved stereoscopic environment that enables adaptive display of three-dimensional data in a plurality of different display schemes, wherein stereoscopic images are presented with accurate visual continuity regardless of the particular required display scheme, so to accurately maintain the stereoscopic effect and reduce visual discontinuities during stereoscopic visualization.

Regarding claim 8, Osaka teaches a predetermined value that indicates that all image data included in said multimedia information are three-dimensional image data are three-dimensional images (col. 16 lines 11-15: "*...image file 50 according to this embodiment includes...three-dimensional image data 52 composed of combined stripes...*" and col. 38 lines 5-11: "*...it is determined, based upon the information in the file header 51, whether this window has three-dimensional image data.*", *where the file header contains a pre-designated file extension that indicates whether the image is three-dimensional*).

Claims 14 and 22-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Osaka in view of Iizuka et al. (hereinafter "Iizuka", US Patent 6,657,655).

Regarding claim 14, Osaka teaches a multimedia information reproduction apparatus (Fig. 12) for reproducing multimedia information generated by the multimedia information generation apparatus (col. 16 lines 11-15: "*...image file 50 according to this embodiment includes...three-dimensional image data 52 composed of combined stripes, and two-dimensional image data 53...*") as recited in claim 1, said multimedia information reproduction apparatus comprising, comprising:

a 2D/3D conversion unit converting page image (Fig. 44: *element 1033a*) into a three-dimensional image (col. 29 lines 11-21: "*A computer system having a stereoscopic display capable of switching between and mixing two- and three-dimensional displays has been described above. With the user interface (GUI) adopted in each embodiment, often a pointer manipulated by a pointing device such as a mouse is moved to a desired position by the user...*", *Fig. 30: 35 and Fig. 45: element 1033a, in which a two-dimensional image is converted into a three-dimensional image in response to user input to a computer system, therefore this system comprises one or more component functionally equivalent to the 2D/3D conversion unit to implement that conversion.*); and

three-dimensional image data included in said multimedia information (col. 16 lines 11-15: "*...image file 50 according to this embodiment includes...three-dimensional image data 52 composed of combined stripes, and two-dimensional image data 53...*");

However, Osaka fails to teach a page data decoding unit decoding graphic and character information included in said multimedia information to obtain a page image data. Iizuka teaches a page data decoding unit decoding graphic and character information included in said multimedia information to obtain a page image data (col. 21 lines 40-43: "*The image-file*

processing unit 304 reads various types of image files, analyzes the contents of the read file, decodes compressed data if necessary, and converts the data into image data having a predetermined standard format.", where the processing unit 304 serves as a page data decoding unit for providing image data representing the two-dimensional left and right images for decoding. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to decode any image data including 2D image page data presented in a 2D window, as shown by Osaka, Figs. 34: 33 and 45: 1033a). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the three-dimensional images of Osaka with the page data of Iizuka because this modification would provide realistic two-dimensional window images represented in three dimensions stereoscopically where precise images are presented enabling accurate depth perception of any two-dimensional window or page data in a three-dimensional environment.

Regarding claim 22, Osaka teaches a second synthesis unit that synthesizes a plurality of two-dimensional image data, wherein said 2D/3D conversion unit converts the two-dimensional image data synthesized by said second synthesis unit into three-dimensional image data (col. 41 lines 40-44: "*...painting a synthesized image, obtained by alternately arraying at least two parallax images in the form of stripes, in the three-dimensional display zone...*", *in which a plurality of 2D images are subsequently synthesized to produce 3D image data*).

Regarding claim 23, Osaka teaches a first font image, or three-dimensional image, and a second font image, or two-dimensionally displayed image, corresponding to character information are provided (col. 16 lines 11-15: "*...image file 50...includes...three-dimensional image data...and two-dimensional image data...*"), and said first font image is used when the

character information is three-dimensionally displayed, and said second font image is used when the character information is two-dimensionally displayed. (col. 16 lines 11-15: "*…image file 50…includes…three-dimensional image data…and two-dimensional image data…*").

Regarding claim 24, Osaka fails to teach said page data decoding unit uses said first or second font image to obtain the page image data. Iizuka teaches said page data decoding unit uses said first or second font image to obtain the page image data (col. 21 lines 40-43: "*The image-file processing unit 304 reads various types of image files, analyzes the contents of the read file, decodes compressed data if necessary, and converts the data into image data having a predetermined standard format.*", *where the image data representing the two-dimensional left and right images is decoded, therefore the unit 304 of Iizuka serves as a page data decoding unit that provides the capability to decode any image data including 2D image page data presented in a 2D window, as shown by Osaka, Figs. 34 and 45*). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the three-dimensional images of Osaka with the page data of Iizuka because this modification would provide realistic two-dimensional window images represented in three dimensions stereoscopically where precise images are presented enabling accurate depth perception of any two-dimensional window or page data in a three-dimensional environment.

Regarding claim 25, Osaka illustrates said 2D/3D conversion unit (Fig. 44: *element 1033a*) uses said first or second font image to obtain the three-dimensional image data (Fig. 45: *element 1033a, therefore the system disclosed by Osaka, Fig. 28, contains one or more computer processing components that perform the equivalent functionality of a synthesis unit that*

synthesizes the 2D or 3D character data to obtain the three-dimensional, or stereoscopic image data, for display).

Regarding claim 26, Osaka teaches a first font image, or three-dimensional image, storage and a second font image, or two-dimensionally displayed image, (col. 16 lines 11-15: "*…image file 50…includes…three-dimensional image data…and two-dimensional image data…*"); and a switch selecting said first or said second font image (col. 12 lines 6-8: "*…it is possible to switch between a two-dimensional display and a three-dimensional display…*").

Regarding claim 27, Osaka teaches converting the second font image, or two-dimensional image, into the first font image, or three-dimensional image (col. 13 lines 50-52: "*…a method of presenting a mixed display of a three-dimensional image and a two-dimensional image…*").

Regarding claim 28, Osaka teaches said first font image, or three-dimensional image, which was generated through synthesis of the two-dimensional images, is comprised of a plurality of pieces of light/dark information and arranged so that apparent charter thickness is thin (col. 27 lines 62-65: "*…the number of parallax images) reduces the aperture efficiency of the parallax barrier pattern, resulting in a darker observed image.*", Figs. 24A, 24B, 51A-51C and 52A, *where the character thickness is presented thin so the pieces may be synthesized for stereoscopic viewing*).

Response to Arguments

Applicant's arguments filed 2/2/10 have been fully considered but they are not persuasive.

The 35 U.S.C. 112, second paragraph rejection of claim 5 and 8 has been withdrawn due to the amendments to claim 5 as recommended by the Examiner in the previous office action.

In regards to claim 1, the applicant argues that Akamatsu does not teach different three-dimensional display schemes, but merely discloses intermediate processing steps for adjusting relative depth information for two images to be synthesized. However, the '*parallax control circuit*' and '*depth information limiter*' applied to the two three-dimensional image signals '1' and '2', as illustrated in Figs. 4 and 5 of Akamatsu, are clearly two separate display schemes because the display scheme utilizing the '*parallax control circuit*' of Fig. 4 enables one image to be displayed in front of the other three-dimensional image with excellent quality (*col. 4 lines 34-39*), while the display scheme of Fig. 5 limits the range of the image signal output to the three-dimensional image synthesizer (*col. 5 lines 29-32*), thereby changing the scheme by which the three-dimensional data is displayed.

In regards to claim 10, the applicant's arguments which state that referring to Akamatsu's synthesizer 103 as being a "*data conversion unit 103*" fails to take into consideration that the claimed "*conversion unit*" converts "*said synthesized three-dimensional image data*" which is provided by the "*first synthesis unit*", and also argues that Akamatsu does not teach generating these plurality of three-dimensional image data, i.e., for a plurality of parallax or depth information, as an input to the synthesizer, in which Akamatsu does not disclose processing of image data that has been synthesized in synthesizer 103, and much less the claimed conversion of synthesized three-dimensional image data using a subset of control information into a format of a selected three-dimensional display scheme, are persuasive. However, claims 10 and 11 are

rejected under 35 U.S.C. 112, first paragraph for introducing new matter into the claims, as stated in the above office action.

The applicant argues that claim 14 is patentable for the same reasons for claim 1. However, the applicant's arguments in regards to claims 1 and 14 are unpersuasive because the rejections of claims 1 and 14 have been maintained in the above office action.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAID BROOME whose telephone number is (571)272-2931. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on (571)272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Said Broome/
Examiner, Art Unit 2628